Cross Section Analysis

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Topics

- Expected Number of Interactions
- Correction in Analysis
- Updated version of paper

Number of Interactions

Flavor	N_ν/pot	$f\langle\Sigma EKTt\rangle$	$\boldsymbol{F}_j$	**Π**
e	5.88×10^{-4}	4.36	68.7	300
μ	5.88×10^{-4}	6.60*	68.7	453
τ	9.08×10^{-5}	2.77	10.6	29

The total expected number of interactions is 782...
but with an uncertainty due mainly to charm production

Method	**Low**	**Mean**	**High**
$\delta n \oplus \delta\sigma \oplus \delta\varepsilon$	610	781	1057
$\delta n + \delta\sigma + \delta\varepsilon$	500	781	1187

The upper range easily accommodates our data

Analysis Correction

A key concept in the cross section analysis is the proper accounting of energy-dependent factors

The fraction of the neutrino ***flux*** intercepted by the emulsion is multiplied by the integrated (or sum) of the product $E \times K$

This fraction depends on neutrino flavor also

See (preliminary) write-up

Cross Section Paper

- New version updates:
  - Tables, text and Figures
- Needs work:
  - Electron ID / efficiency
  - Final numbers
  - References

Version 6 - http://www-donut.fnal.gov/internal/publications/drafts.html